

AMENDMENT TO THE DRAWINGS

The attached sheets of drawings include changes to FIGS. 7 and 15. These sheets, which include FIGS. 7 and 15, replace the original sheets.

REMARKS

This is in response to the Office Action dated September 7, 2006, in which claims 1-36 were pending; claims 1, 13, and 30 were objected to; claims 20-22 were rejected under 35 U.S.C. 112, ¶2; claims 1-7, 9-16, 18-20, and 23-27 were rejected under 35 U.S.C. 102(b); and claims 8, 17, 21, 22, and 28-36 were rejected under 35 U.S.C. 103(a).

Applicants herein amend claims 1, 4-6, 8, 9, 13, 20-23, and 30, and cancel claims 7 and 31. These amendments include what are believed to be resolutions of the respective objections and §112 rejections of claims 1, 13, 20-22, and 30. Applicants respectfully submit that claims 1-6, 8-30, and 32-36 are not taught or suggested by the cited references, for reasons such as those detailed below, and are presently in condition for allowance. Applicants accordingly respectfully request withdrawal of the rejection of claims 1-6, 8-30, and 32-36 and allow these claims, in light of the amendments and remarks herein.

The specification was also objected to for using the term "AFM" without elaboration. "AFM" is a common abbreviation for an atomic force microscope. Applicants have amended the specification to clarify accordingly. The drawings were also objected to, and Applicants submit that these objections have been resolved by the enclosed amendments to the drawings and the specification.

SHERIDAN AND DALLA BETTA DO NOT TEACH OR SUGGEST EVERY ELEMENT OF

CLAIM 32

In the Office Action, claims 32-36 were pending and were rejected under 35 U.S.C. 103(a), with reference to U.S. patent 5,627,328 issued to Sheridan et al. in combination with U.S. patent 4,355,056 issued to Dalla Betta et al. Applicants

respectfully submit however that Sheridan and Dalla Betta do not teach or suggest claim 32, because persons of ordinary skill in the art would not have had any objective motivation to combine the subject matter of Sheridan and Dalla Betta.

The rejection of claim 32 relies in part on the assertion that a person of ordinary skill in the art would have been motivated to combine the subject matter of Sheridan and Dalla Betta. Applicants respectfully submit that the rationale presented in the Office Action does not sufficiently demonstrate that motivation, and that the combination of the references therefore would not have been obvious.

In particular, the combination is said to have been obvious because it would have provided the benefit of relative insensitivity to sulfur poisoning and ability to operate at elevated temperature for extended periods of time, as explained by Dalla Betta. However, this is only a restatement of certain utility provided by one of the references. Presumably, every patent reference provides some sort of benefits, implicit in the requirement for utility; and which, taken in isolation and out of context, is analogous to an advantageous feature of the claimed invention. However, the existence of such utility in a reference cannot by itself provide a rationale for combining that reference with other references into a combination that benefits from that utility of its combined constituent elements. Otherwise, any application having utility could be shown to be "obvious" by collecting individual references with elements providing analogous utility in isolation, with that utility providing its own motivation to combine with any other feature to make any other combination. This standard would therefore render any patentable invention strictly impossible, since it could not

satisfy the requirement for utility without failing the requirement for non-obviousness.

Rather, the legal rule is that a motivation to combine references must be resolved by specific findings of fact that demonstrate objective evidence that a person of ordinary skill in the art would have been motivated by specific teachings in the prior art, by the nature of the problem to be solved, or by knowledge common to those skilled in the art, that the combination would be desirable; and that such motivation cannot be resolved on subjective belief or unknown authority. Applicants respectfully submit that these requirements have not been met with respect to claim 32 by the identification of certain utility in one of the cited references; and that a person of ordinary skill in the art at the time the invention was made would not in fact have been motivated to combine these references.

Examining the three possible sources by which such motivation may be objectively demonstrated, there does not appear to be any teaching in the cited references explicitly suggesting a combination; nor did the nature of the disparate problems to be solved by the Sheridan and Dalla Betta references, respectively, inherently suggest a combination, since they were directed to very different problems; nor would such a motivation have naturally arisen from the knowledge of those skilled in the art, since the fields of art of the references were dramatically different from each other.

Applicants therefore respectfully submit that claim 32 is not suggested by the cited references because there would have been no motivation for persons of ordinary skill in the art to have combined the cited references. Applicants therefore respectfully request that the rejection of this claim be withdrawn.

THE CITED REFERENCES DO NOT TEACH OR SUGGEST EVERY ELEMENT OF
CLAIMS 1-6, 8-30, AND 33-36

Claims 33-36 were also rejected under Sheridan combined with Dalla Betta, and are dependent on claim 32. Applicants submit claims 33-36 are also not taught or suggested by the cited references at least due to their incorporation of the novel and non-obvious subject matter of claim 32, as discussed above.

Claims 1-6, 9-16, 18-20, and 23-27 were rejected under §102 with reference to a variety of respective cited patents, and claims 8, 17, 21, 22, and 28-30 were rejected under §103 with reference to a variety of respective cited patents. Independent claims 1, 13, and 23 are amended herein and include combinations with subject matter analogous to that of claim 32. Applicants respectfully submit that claims 1, 13, and 23 are not taught or suggested by the cited references due at least to the novelty and non-obviousness of their subject matter analogous to that of claim 32, in accordance with the discussion of claim 32 above, in addition to the novelty and non-obviousness of the combination of that subject matter with further elements of each of the respective claims. Claims 2-6, 8-12, 14-22, and 24-30 are also believed to be neither taught or suggested by the cited references due at least to their incorporation by dependency on claims 1, 13, and 23 respectively, of the novel and non-obvious subject matter included therein.

CONCLUSION: CLAIMS 1-6, 8-30, AND 33-36 ARE NOT TAUGHT OR
SUGGESTED BY THE CITED REFERENCES

In conclusion, Applicants respectfully submit that claims 1-6, 8-30, and 32-36 are not taught or suggested by the cited references, and that all pending claims are presently in

condition for allowance. The applicants respectfully request that the Office find likewise and allow the application.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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